

Human Resources: Identification of Training Needs and Knowledge Gaps

Geothermal ERA-NET

WP6 - Tasks 6.2

Trieste 10 September 2014



Amendments to WP6

From the Gstaad meeting in March:

- Task 6.2 on training needs and Task 6.3 on human resources and mobility
 - Combine
 - Reports from WP 2 (barriers&gaps and RD&D needs)
 - Deliver prior to autumn meeting in September M29
- Task 6.4 on expert exchange scheme
 - Need to define what is actually meant
 - Do we have a budget for site visits, or to pay for experts for study trips abroad?
 - Report, including rules and guidelines, in M42??
- [WP6 after amendments](#)
- [WP6.1 map](#)

Aim of Tasks 6.2

*Based on the results from the mapping exercise (task 6.1.) the inventory of available mobility and training programmes will be compared with the long term ambitions for the use of geothermal resources in Europe. **A working group will identify possible training needs and knowledge gaps that need to be addressed in order to achieve adequate human resources for meeting those goals.** The task-force will for example look into the need for transnational programme collaboration, mutual opening of national programmes, establishment of common programmes and need for dedicated programmes at Community level. The result will be a study analysing the various options and recommendations for collaboration in the area of human resources, mobility and training. Recommendations for joint actions in the area of human resources issues will be presented to the project supervisory board.*



Students and Education in Geothermal Energy

- Examine the prospective human resources that could soon enter the geothermal workforce and the educational opportunities available for this group.
- An online survey active from June 24th to September 9th.
- Convenience sampling: The list of higher education institution from the inventory report in task 6.1.
 - All in all 71 HEIs from 14 countries.
 - The list is not exhaustive and results only intended as an indicator of current status and future prospects, as well as a valuable input into further discussion and action planning.
 - The link to the survey was sent out by the ERA-NET partners within their own countries. Those countries that are not a part of the net received a link from the working group.
- Unfortunately only 7 responses were collected, despite numerous reminders being sent.
 - The reason for such a low response rate is likely due to the timing of execution (July and August).



Conclusions?

- At response rate of 10% we cannot really draw any conclusions, but some comments:
 - No one anticipates a decrease in number of students, rather an increase although complaints about lack of EU policy
 - In the last five years there is a considerable increase in number of students in geothermal courses (table 3 p. 11)
 - On mobility they make use of Erasmus+ and other EU and national programmes, but they would welcome more specific programmes and/or recurrent summer schools
- Next steps?



Human Resources in the Geothermal Sector

- Examine the current situation of human resources within the geothermal sector, as well as future prospects.
- An online survey active from June 25th to September 9th.
- The sampling of participants was in fact both convenience and purposive sampling, where appropriate participants are handpicked for the sample.
 - This can be useful when researchers need to reach a targeted sample in a short amount of time and where random sampling proves difficult.
 - The Geothermal ERA-net partners themselves identified “major players” within the geothermal sector in their country. Those parties received an invitation to partake in the survey.
 - When viewing the results, it must, however, be noted that this method also introduces possible biases as participants are handpicked using a subjective estimation of various individuals (not a random sample).

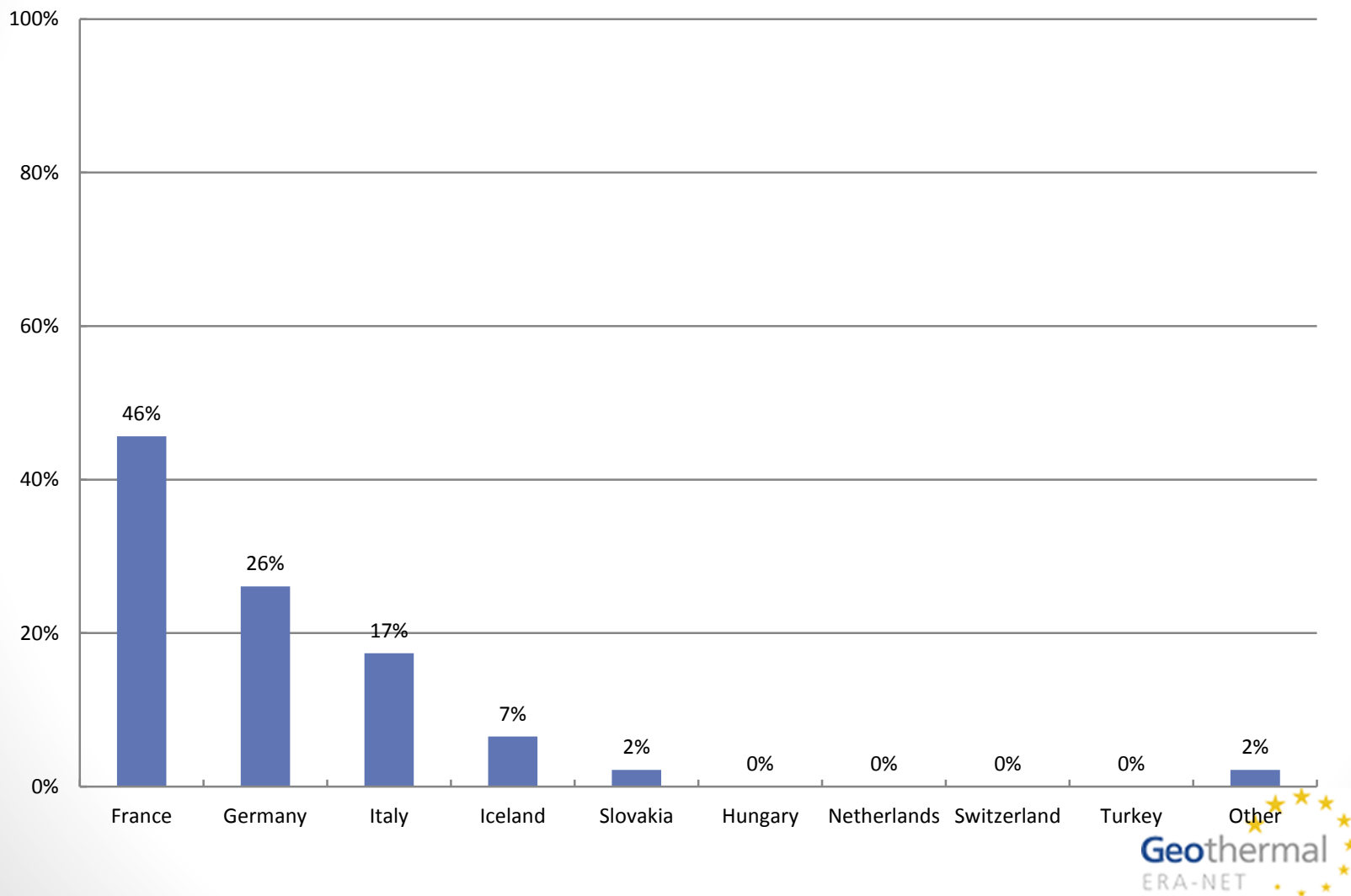


Responses

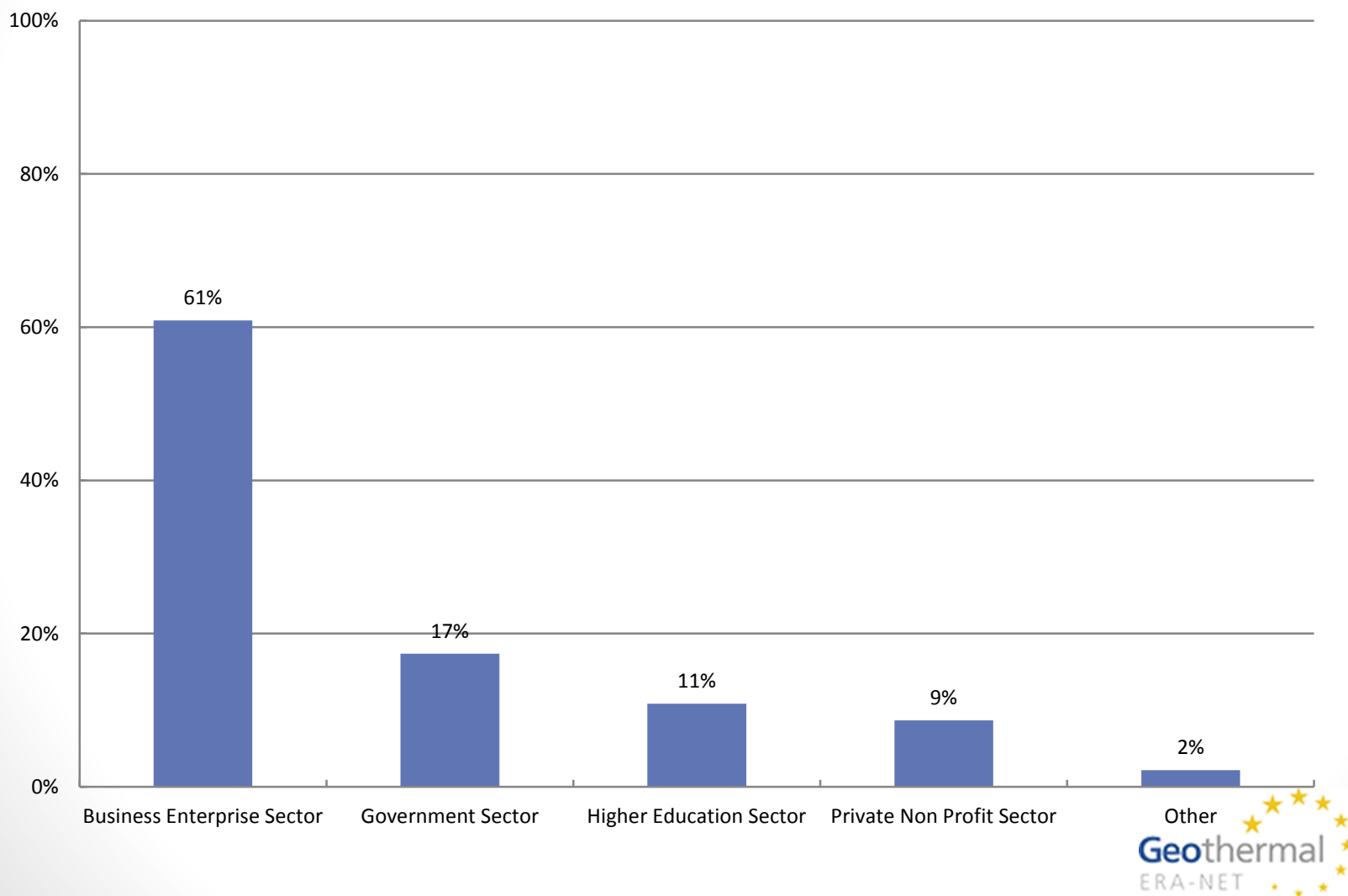
- On the 28th of August, survey data was collected from the database and 46 responses used to construct the results presented below.
- The ERA-net partners were asked to document to which parties the survey link was sent. Only four of the partners provided the working group with such lists, so determining an overall response rate for the survey is impossible.
- The response rates for four countries who did supply a sample list are as follows: Germany 92% (12/13), France 21% (21/101), Iceland 20% (3/15) and Italy 12% (8/69).



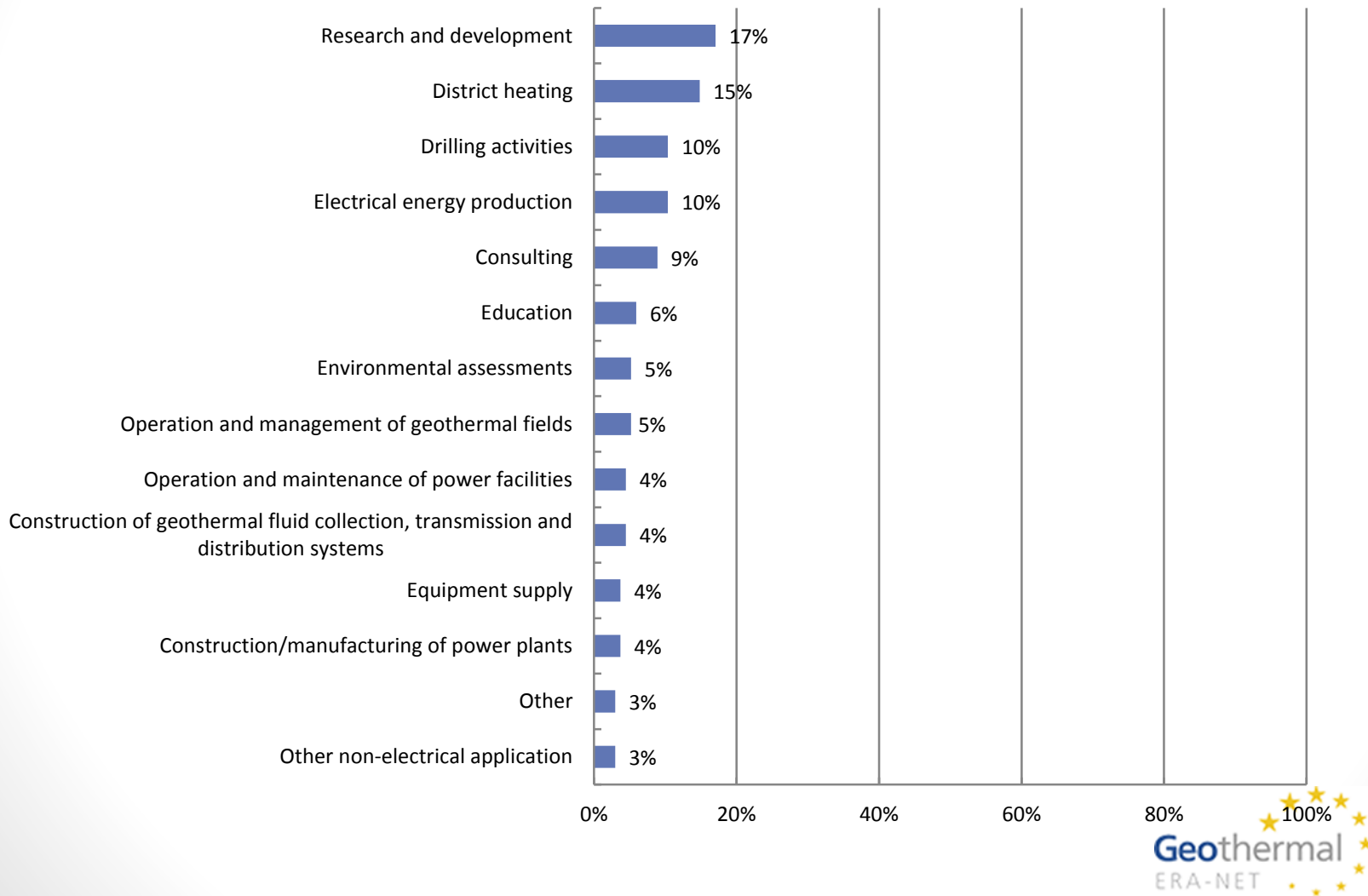
Locations of institutions/organisations/business enterprises



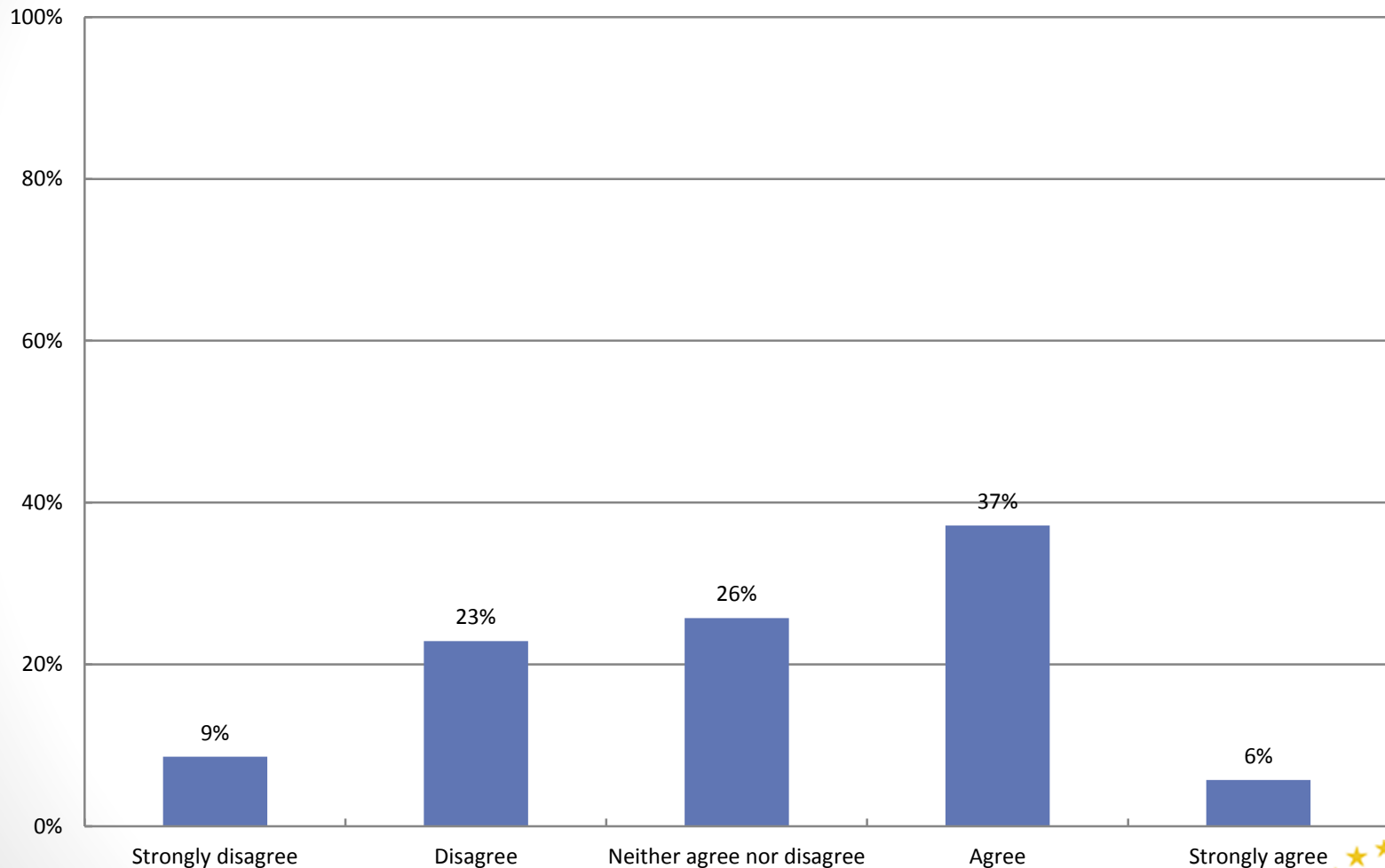
Sector of institution/organisation/business enterprise



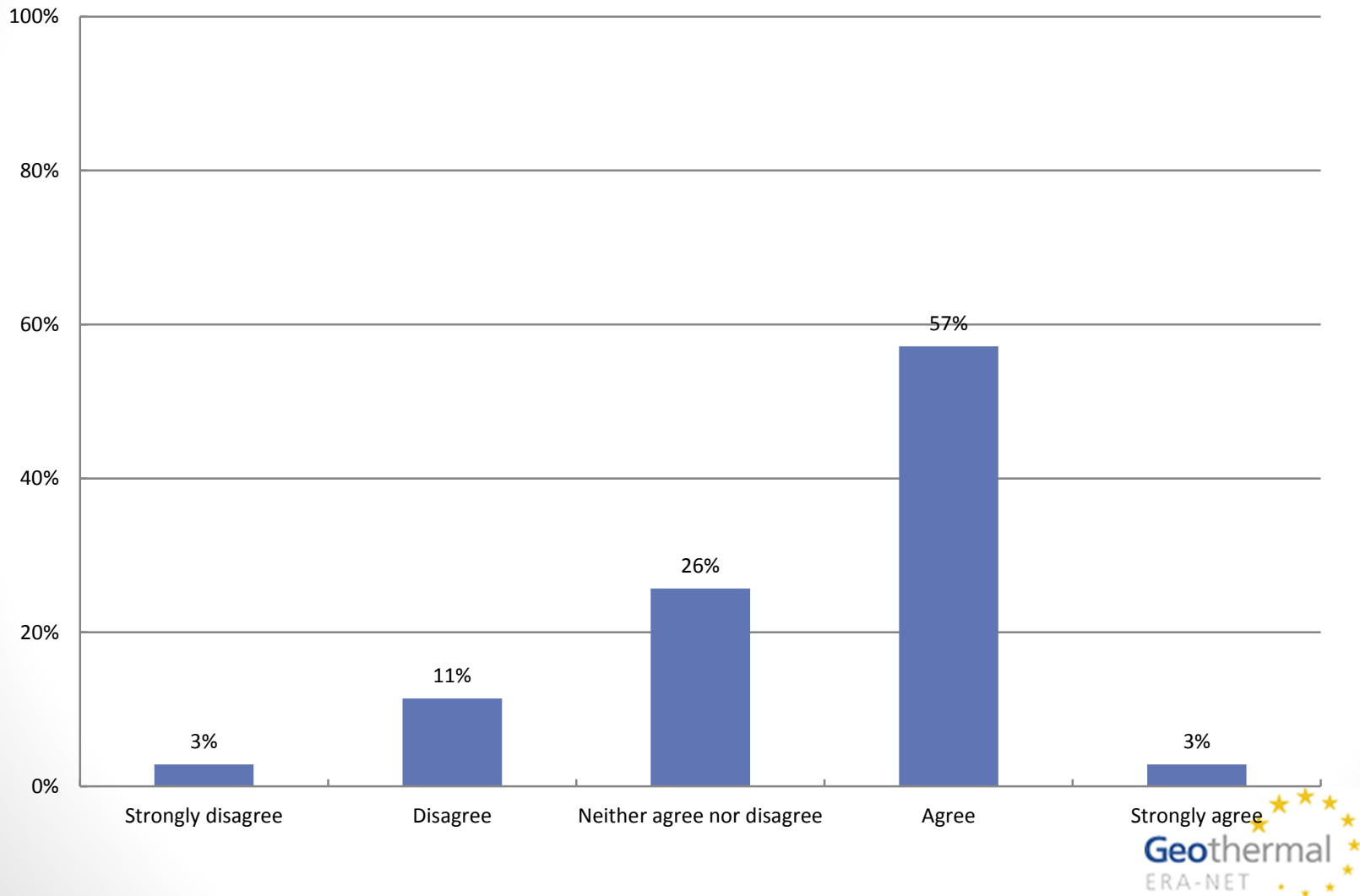
Types of geothermal activities of institution/organisation/business enterprise



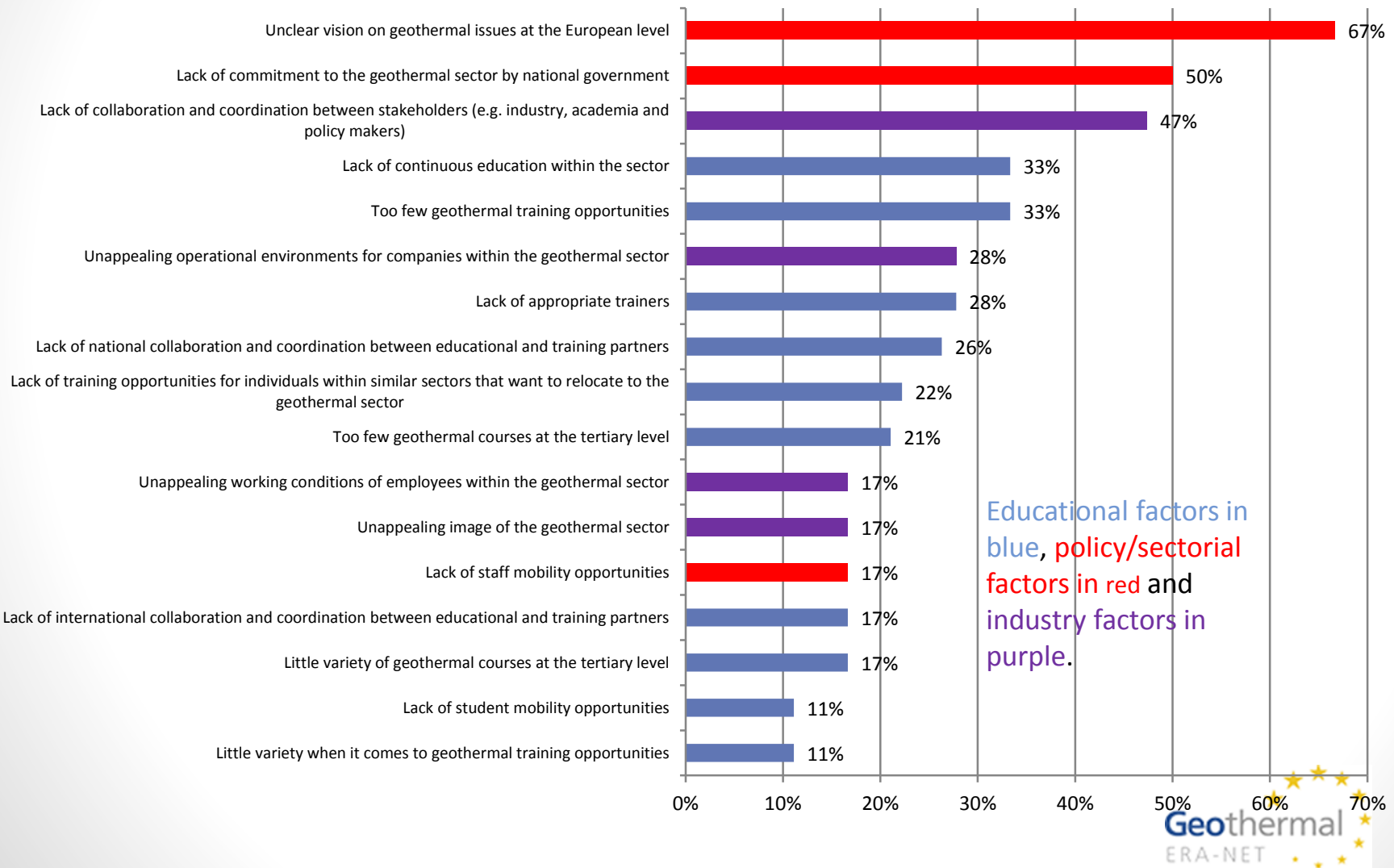
My institution/organisation/business enterprise is lacking personnel with specialised skills and knowledge in geothermal activities



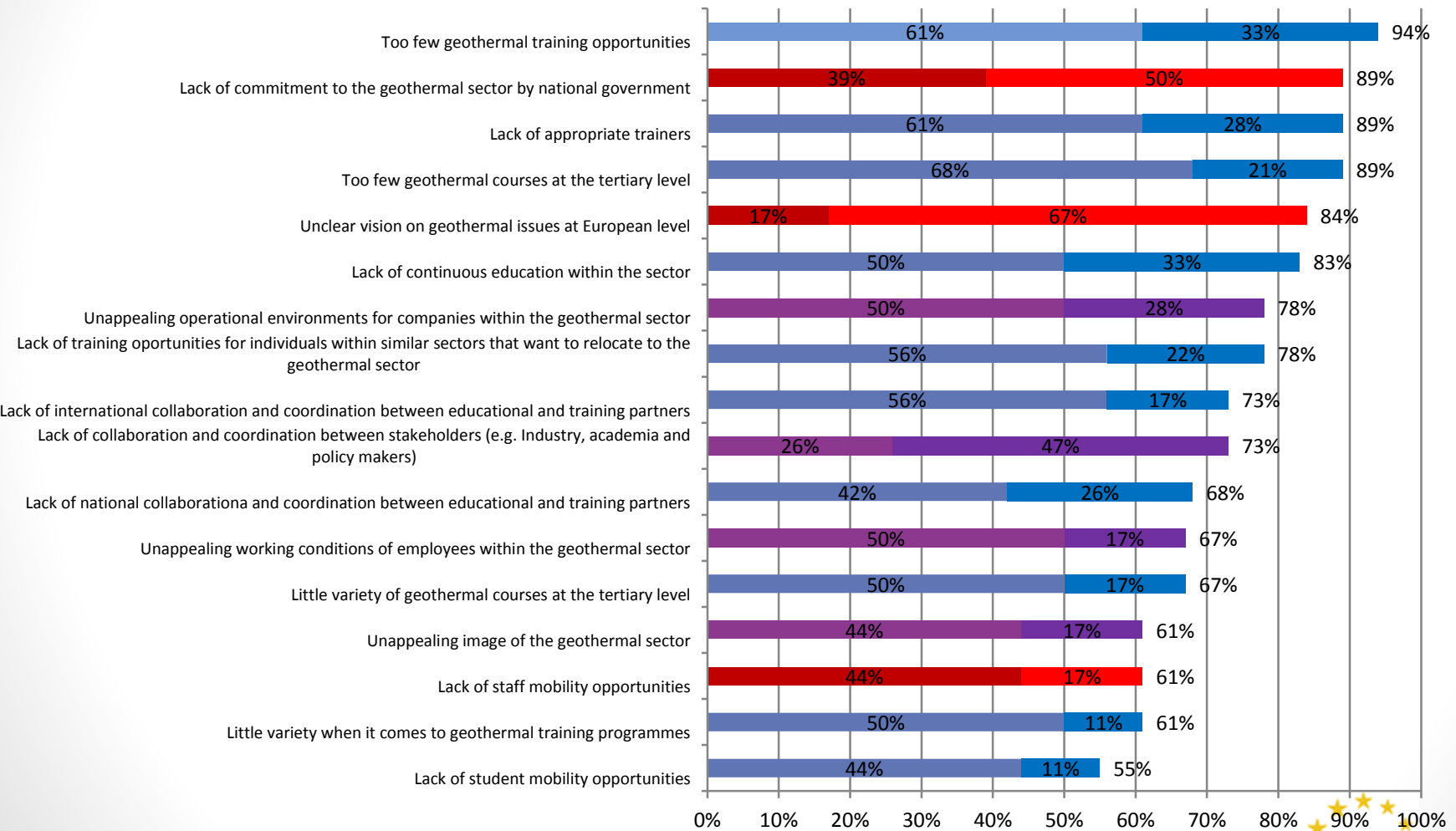
In general, the geothermal sector is lacking personnel with specialised skills and knowledge in geothermal activities



Factors deemed of high importance as contributors to a lack of human resources within the geothermal sector



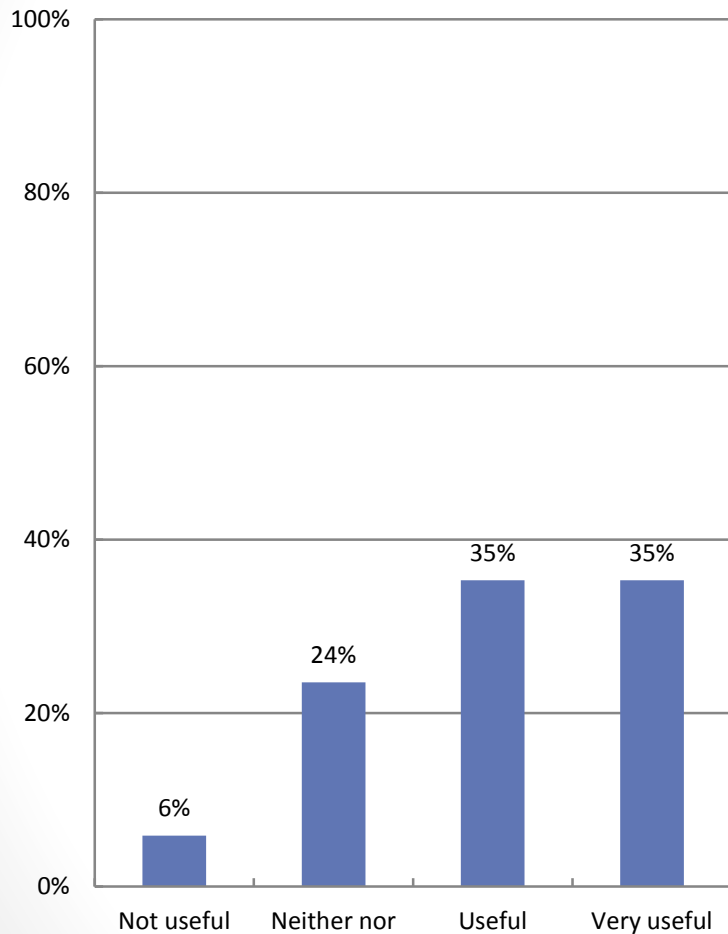
Factors deemed of medium and high importance as contributors to a lack of human resources within the geothermal sector



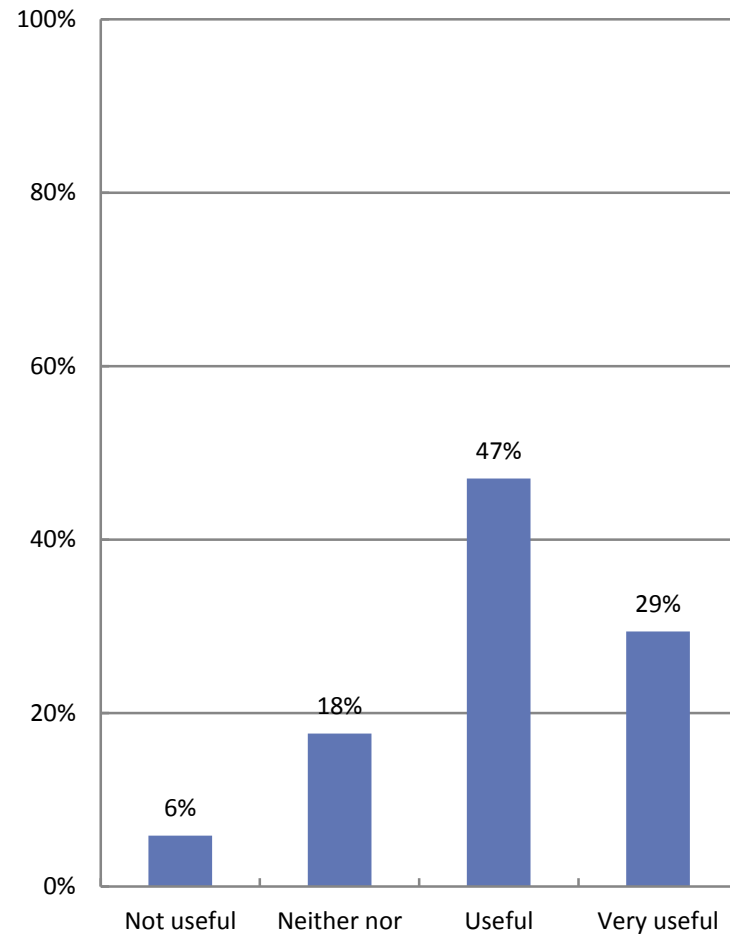
Educational factors in blue (medium/high), policy/sectorial factors in red (medium/high) and industry factors in purple (medium/high).



Possible Actions for Meeting the Need for Human Resources



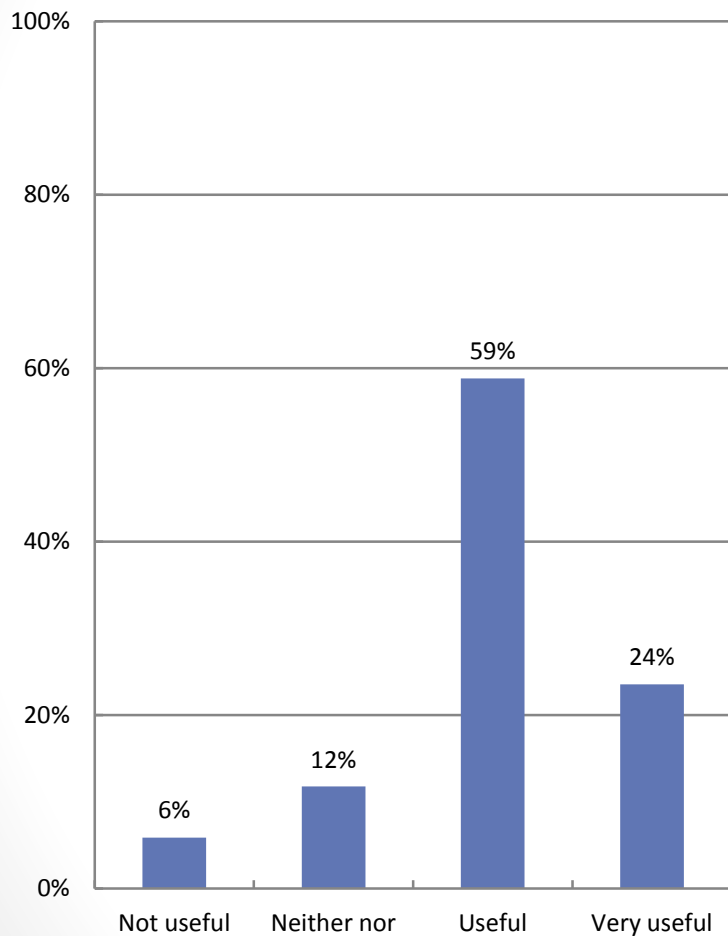
Usefulness of Transnational Training Programmes



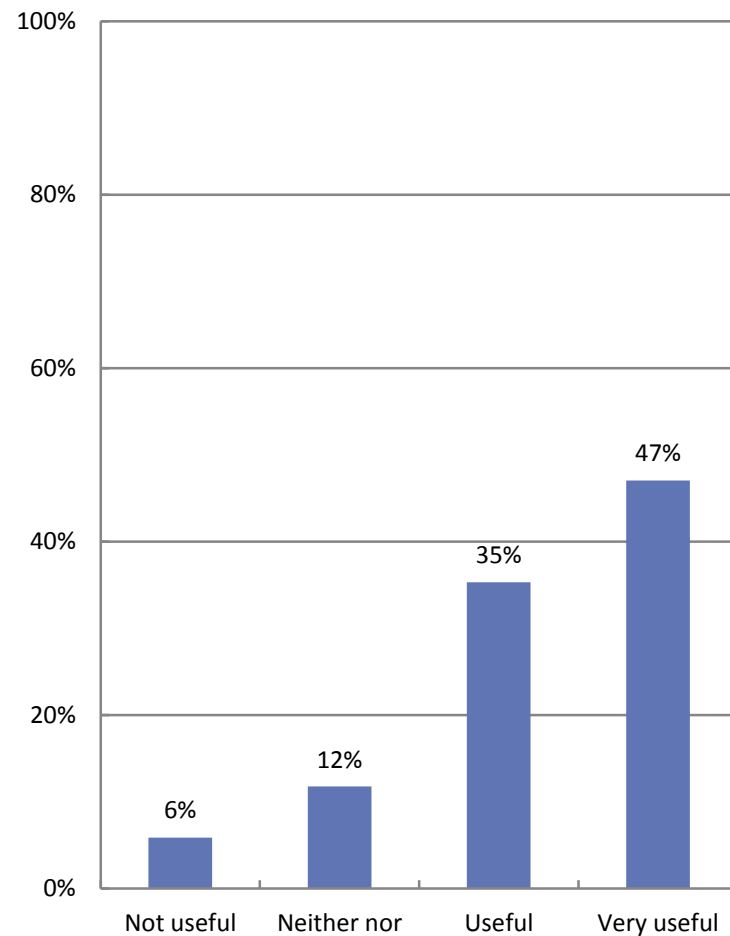
Usefulness of mutual opening of National Programmes



Possible Actions for Meeting the Need for Human Resources



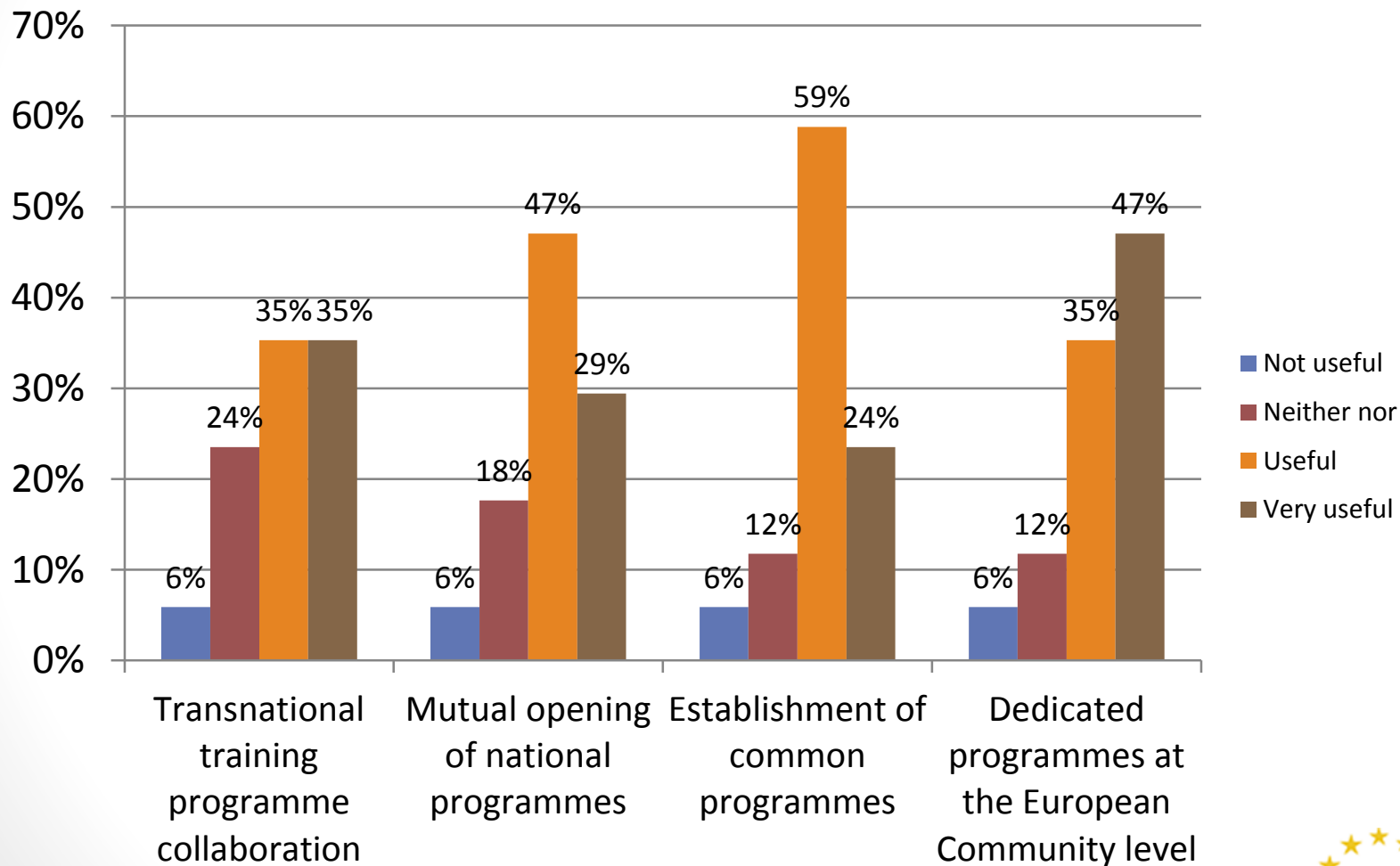
Usefulness of establishing common programmes



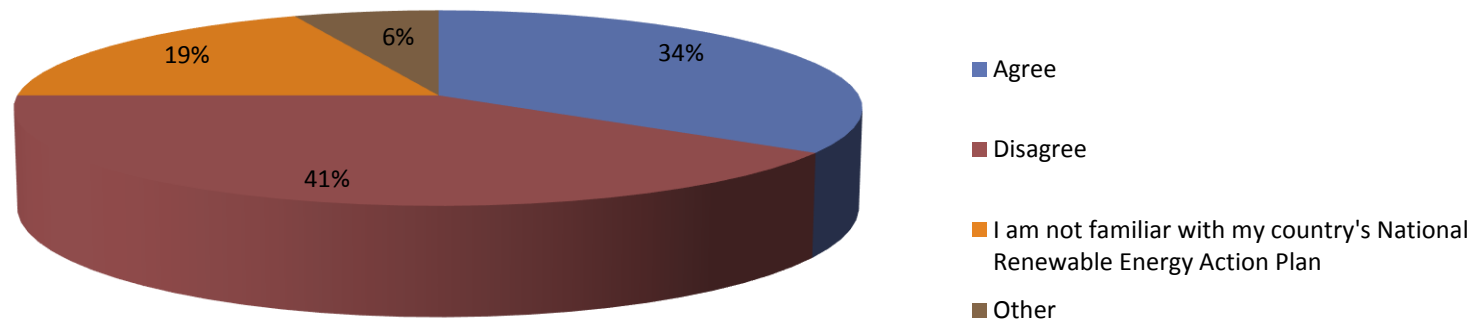
Usefulness of dedicated programmes at the European Community level



Possible Actions for Meeting the Need for Human Resources



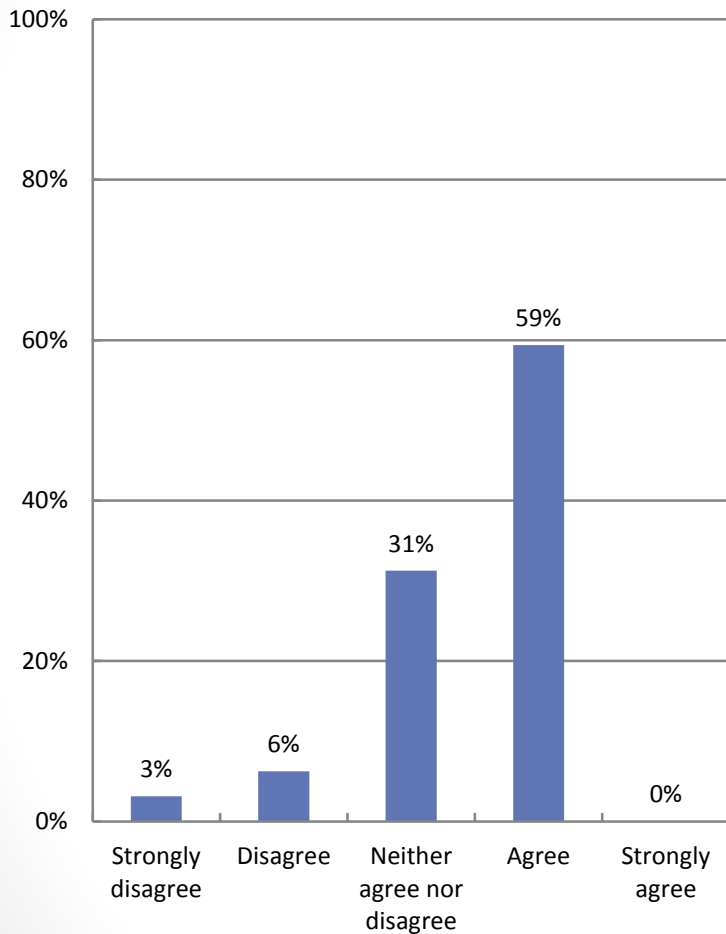
Current supply of HR and meeting the long term goals of geothermal energy use in the NREAPs (National Renewable Energy Action Plan)



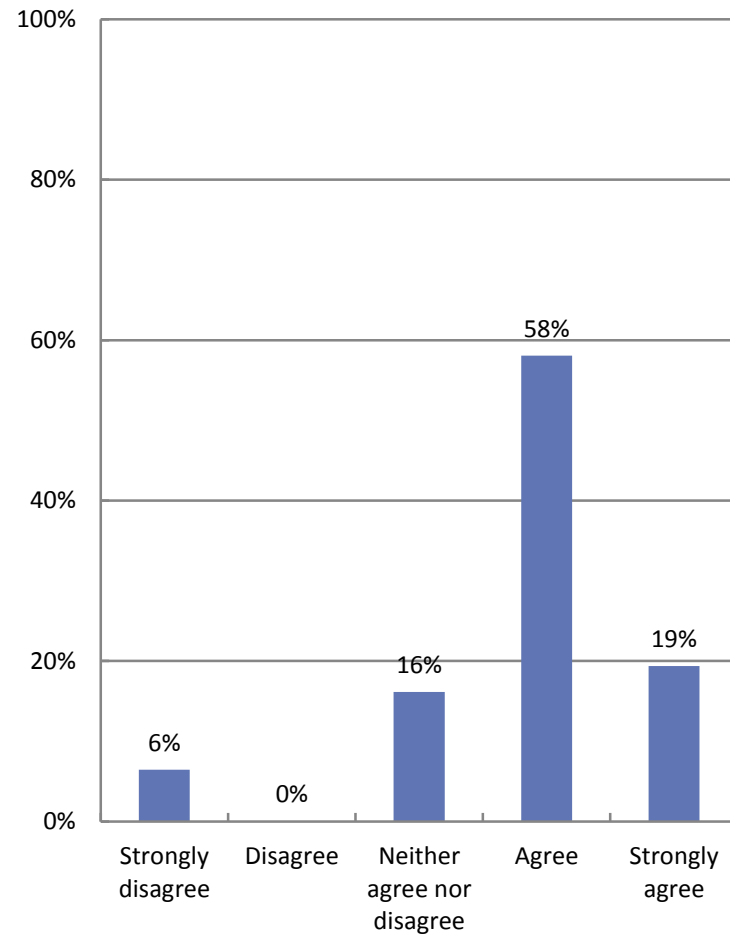
The current supply of human resources within the geothermal sector in my country will be able to meet the long term ambitions for the use of geothermal energy, as stipulated in my country's National Renewable Energy Action Plan. n=32.



Future demands for Human Resources



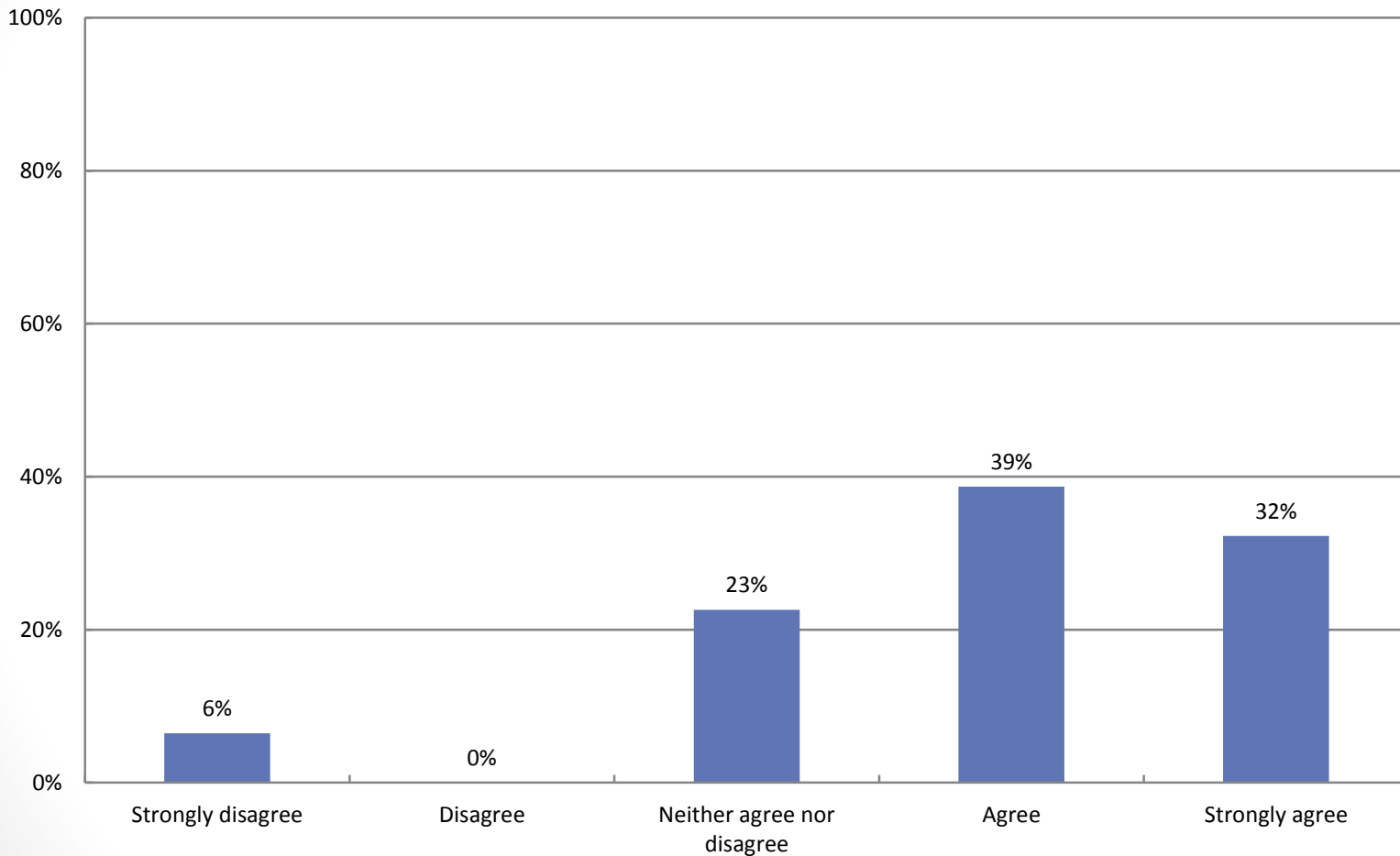
Demand will be higher in 5 years from now



Demand will be higher in 10 years from now



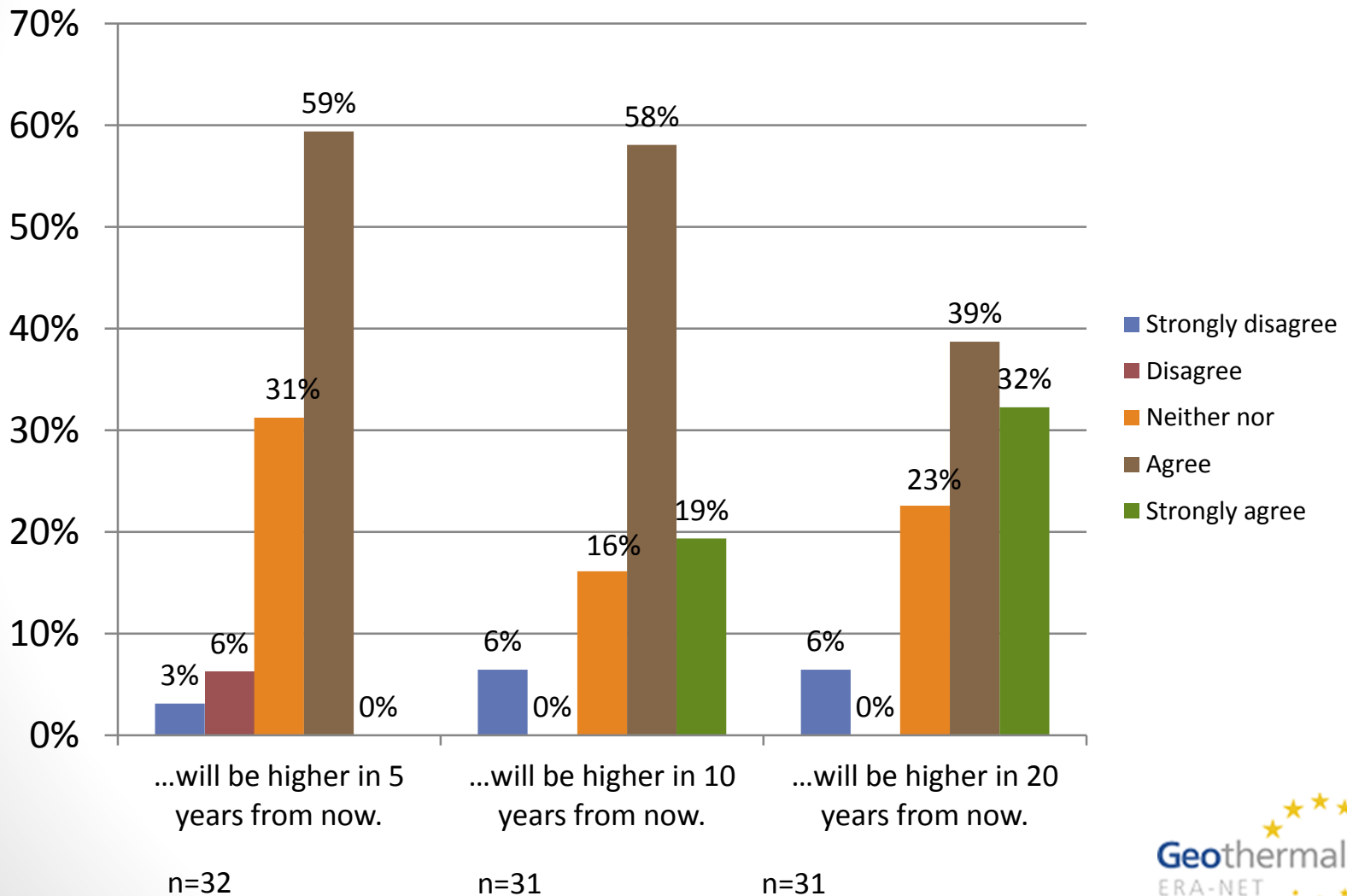
Future demands for Human Resources



Demand will be higher in 20 years from now



Demand for personnel with specialised skills and knowledge in geothermal activities...



Conclusions?

- There is a demand for more personnel with specialised skills and knowledge in geothermal activities in the nearest future, but there is also too few training opportunities
- This is in line with a similar survey conducted by the [GeoElec](#) project during 2012 and first half 2013.
- There is clearly a lack of vision and leadership, both on national as well as European level.
- It is amazing to see that almost 20% do not know about their own national policy on geothermal – and this is a survey among those working in the sector.
- The response rate was sufficient but some of the partner countries did not reply at all.





... and that's it !

... but now we need to discuss how to move forward

What to do about the educational part?

Are we satisfied with the human resources part?